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REGULATORY AFFAIRS

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A BRITISH INNOVATION PRINCIPLE

Do we need one, and how might it work?

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Summary

- The UK is incorporating the precautionary principle into domestic law. This should be balanced with an innovation principle.
- Innovation is vital for economic growth and prosperity. But there are widespread concerns that badly designed and targeted regulation holds back innovation, due in part to excessive restrictions brought about by misapplication of the precautionary principle.
- The precautionary principle is imprecisely defined and poorly understood. The EU acknowledged this and introduced an innovation principle to ensure that the effects on innovation of proposed measures would be duly taken into account, and desirable innovations would be supported.
- The EU Innovation Principle conflates general support for innovation with industrial policy, more specifically the questionable ability of government to identify desirable future technologies and innovations and plan for the acceleration of their delivery. This misdirects the purpose of the EU principle towards political projects rather than creating an environment in which inspiration, investment and commercialisation can thrive in the wider economy without a plan or specific support of any kind.
- The precautionary principle applied in the UK through EU law and has been incorporated into domestic law after the UK left the bloc. It formally applies in fields such as the environment and climate, but a precautionary approach can be seen more widely, for example in competition law. Similarly, it is not only regulation in the fields of science and technology that affects innovation – employment law and financial services regulations affect the innovativeness of firms that are subject to them.

- Although innovation effects are included as standard in impact assessments for regulatory measures, they are not currently covered with rigour and the quality of cost-benefit analysis is often questionable.
- Reforms to the regulatory framework could deliver a more proportionate application of the precautionary principle that gives due weight to the benefits to (amongst other things) the environment, human health and wellbeing that innovation and economic growth can bring – this could be framed as an innovation principle.
- Failure to implement such reforms could mean that the UK will import the burdens of the precautionary principle from EU law without the protections for innovation from its regulatory toolkit and legal order.

Introduction

> Without innovation we face a bleak prospect of stagnant living standards leading to political division and cultural disenchantment. With it, we face a bright future of longevity and health, more people living more fulfilled lives, astonishing technological achievements and a lighter impact on the planet's ecology.
>
> Matt Ridley (2020)

Innovation is broadly understood, from Matt Ridley to the European Commission, to comprise a novel or inventive step, whether in a physical product or in a process or organisation, that 'catches on' and is useful in society. It therefore requires more than scientific discovery and must have practical value. It is also clear that innovation is necessary for economic growth and improvements in living standards. The relationship between state intervention, regulation and innovation is more contested.

It is widely accepted that regulation can unduly constrain innovation, and often goes beyond what is necessary to correct market failures and protect consumers, preventing the development of safe and useful products and services (see, for example, Business Europe 2016).

One cause of this is a defective regulatory process, and legal effects that flow from it. Some of this arises from the operation of the precautionary principle and the lack of proper consideration and weighting of the effects of a proposed measure on innovation.

The precautionary principle is embedded in UK regulatory frameworks, although it is not formally and consistently defined (as discussed below, HM Treasury and other departments have working definitions that concern situations where action may be taken to avert risk even where the probability

of damage is low and scientific certainty is lacking). There are also numerous points in the process that require innovation (and other dynamic effects) to be taken into account in policy formation and cost-benefit analysis. These controls and safeguards are arguably not working effectively, and the precautionary principle, with legal weight that can be called upon in judicial review challenges to regulatory actions, seems to drive regulation out of proportion to other considerations.

This paper will consider some reforms that would improve the regulatory process and lead to a more supportive environment for innovation. The reforms that we will consider are:

1. Implementing a binding innovation principle to apply alongside, and with equivalent weight to, the precautionary principle. It would oblige ministers and regulators to refrain from measures that would have a disproportionate effect on innovation in affected fields and could include a duty actively to pursue measures that would support innovation.

2. Investing in training and resources for ministers and officials to use the existing regulatory framework (in particular, impact assessments) more effectively.

3. Improving the regulatory framework by consolidating innovation considerations into a toolkit that gives due weight to innovation at relevant times in the regulatory lifecycle and comprises practical steps and guidance for officials.

Further options would on the one hand include removing the precautionary principle as a binding legal principle in all areas of policy or, at the other extreme, leaving the current legal and procedural frameworks as they stand, relying on political pressures in favour of innovation.

At the outset we can say that removing the precautionary principle as a legal commitment, while desirable for reasons set out below, will be politically difficult in the short term, not least because it is being formally implemented into domestic law for environmental matters through the Environment Bill that is currently progressing through Parliament. Such a change, by a government that prioritises environmental matters and is susceptible to lobbying by green activists (who value the precautionary principle highly as a legal weapon), seems unthinkable at present. Given

the propensity for political pressures to run in the opposite direction, we will also eliminate the ‘do nothing’ option for present purposes.

The following sections will focus on how the options for reform listed above could be implemented to tackle regulatory barriers to innovation. The influence of the precautionary principle is not the only reason to consider improvements in the regulatory environment for innovation, and there is a case for pursuing these options independently of its existence. However, given the perceived tension between precaution and innovation in law and policy-making, this aspect is considered in some detail.

Relationship of innovation principle to precautionary principle

There is no formal, fixed definition of the precautionary principle, even in legislation that uses the term (such as the Treaty on the Functioning of the European Union and the UK's Environment Bill). A widely used working definition (taken from the 1992 Rio Declaration on Environment and Development) is (UN 1992):

> where there are threats of serious or irreversible environmental damage, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

According to the European Commission's communication on the matter, 'the precautionary principle may be invoked when a phenomenon, product or process may have a dangerous effect, identified by a scientific and objective evaluation, if this evaluation does not allow the risk to be determined with sufficient certainty' (European Commission 2000).[1]

The European Environment Agency describes the precautionary principle as (EEA 2001):

> justification for public policy and other actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need

1 The communication goes on to provide detailed and nuanced guidance on the conditions for invocation of the precautionary principle and the design of consequent measures – perhaps even too nuanced for practical usage.

> to act in order to avoid, or reduce, potentially serious or irreversible threats to health and/or the environment, using an appropriate strength of scientific evidence, and taking into account the pros and cons of action and inaction and their distribution.

And the UK Treasury Green Book states that (HM Treasury 2020):

> Precautionary principle refers to the concept that where the potential consequences of a perceived risk are significantly adverse, action may be justified even if the probability of its occurrence is low.

As the variety of definitions suggests, there are many ways of interpreting and applying the principle. Various interpretations of it range from the extremely risk averse, to indifference as to risks. It could be said to occupy an uncertain position between common sense and justifying unlimited interventions based on vague apprehensions of risks (Sunstein 2002). This has led to the principle being criticised as offering no useful guidance. The precautionary principle has long been controversial and has been criticised for being vague and poorly defined, expanding regulatory discretion (Majone 2002). In the European context, the principle has been criticised for leading to neglect of the opportunity cost of precautionary measures, such as those arising from anti-competitive effects and loss of innovation. This distorts priorities and compromises the consistency of regulatory policies (ibid.). Its incorporation in law has also empowered activists to use judicial review to try to enforce a restrictive, precautionary approach on executive and regulatory action.[2] While some may see this as an advantage, it can also be argued that it causes legal uncertainty and unbalances the constitutional relationship between parliament, the executive and the judiciary.

A point that should be obvious but is perhaps highlighted by the various approaches in the early stages of Covid vaccine roll outs, is that there are risks of regulatory inaction just as much as there are risks of regulatory action. Similarly, decisions taken according to the precautionary principle that prevent innovation for fear of the damage (including of course political damage arising from public expectations of protective action) that might result, run the risk of preventing the benefit the innovation might bring. Hence, the precautionary principle, if applied only slightly too vigorously,

2 See for example Kenyon v. Secretary of State for Housing Communities & Local Government et al. [2020] EWCA Civ 302.

may cost more in lost opportunities for progress than it saves in the avoidance of hypothetical dangers.

The EU's ban on hormone-fed beef (which was fiercely resisted by the British government at the time[3]) provides a clear example of the use of the precautionary principle.[4] Similarly, restrictions on GM foods in order to avoid unknown potential harms for which there is little evidence, prevent improvements in agricultural productivity that could alleviate poverty in developing countries. This not only holds back economic growth but also constrains the broader objective of sustainable development,[5] as process and technological changes that would lead to more efficient use of resources are impeded.

Nevertheless, the precautionary principle has become a key part of regulatory decision making, particularly in the fields of environment and climate policy, where it has been applied formally. A precautionary approach can increasingly be seen in many additional areas such as digital technologies, artificial intelligence and even competition law (Portuese 2021).

The perceived adverse effect of EU regulation on innovation and competitiveness was highlighted by a group of industry bodies which, in 2013, called for an innovation principle providing that 'whenever policy or regulatory decisions are under consideration the impact on innovation as a driver for jobs and growth should be assessed and addressed' (ERF 2013).

In the following years, the EU recognised that it was falling behind global competitors in productivity and innovation (see, for example, European Commission 2016). A later study for the European Commission found that 'regulation, when featuring adequate levels of stringency and appropriate timing, can steer innovation towards addressing societal needs', while

3 The UK challenged the relevant directive in the European Court of Justice but was unsuccessful: Case 68/86 United Kingdom of Great Britain and Northern Ireland v. Council [1988] ECR 0855.

4 The WTO Appellate Body found that the EU's ban was arbitrary and unjustifiable (https://www.wto.org/english/tratop_e/dispu_e/cases_e/1pagesum_e/ds26sum_e.pdf). But the possibility of the ban being lifted is met with apocalyptic warnings (https://www.heraldscotland.com/news/19332975.uk-australia-trade-deal-likened-highland-clearances-snp-accused-isolationism/).

5 Defined by the World Commission on Environment and Development (known as the Brundtland Commission) in its 1987 report as 'development which meets the needs of current generations without compromising the ability of future generations to meet their own needs'.

‘badly designed regulation can also harm innovation, for example by failing to reflect ongoing technological trends, failing to incentivise investment in research and development, hindering the emergence of alternative business models or imposing excessive red tape that ends up distracting resources from more productive uses’ (Renda and Simonelli 2019).

Consequently, the EU implemented an innovation principle into its better regulation ‘toolbox’ (the guidelines and principles that the Commission follows when preparing new measures or reviewing existing legislation).

The EU Innovation Principle

The EU Innovation Principle was implemented through Tool 21 of the Better Regulation Toolbox. The Tool itself comprises a series of steps, to be undertaken from the start of the process when types of legislation and objectives are first considered. The steps are 1. 'Broaden consultation to capture the research and innovation angle'; 2. 'Assess potential impacts on research and innovation'; 3. 'Address legislative design considerations'; and 4. 'Apply tools to leverage the potential of innovation to reduce negative impacts'. Each step has guidance and checklists to assist the designers of a proposed measure.

The EU Innovation Principle is not considered to be a policy per se, but rather 'a new approach that adds to the existing toolkit available to EU policymakers'. Its objectives were described by Renda and Simonelli (ibid.) as:

- Improving the design of existing and future EU regulations with regard to their impact on innovation.
- Searching for future-proof, more forward-looking and innovation-friendly approaches to regulation.
- Achieving an optimal balance between predictability of the regulatory environment and adaptability to technological and scientific progress.
- Simplifying and increasing the effectiveness and coherence of the regulatory framework by ensuring an overall approach to assessing the combined impact of regulations affecting multi-technology and multi-domain innovations.
- Checking implementation issues that can affect innovation outcomes (including at national, regional and local levels of administration).

- Increasing dialogue with stakeholders to identify regulatory problems affecting innovation and seek solutions.

Innovation or industrial policy?

Aspects of the EU approach suggest that the European Commission sees the Innovation Principle as an instrument of industrial policy.[6] Indeed, the European Political Strategy Centre (2016) asserted that 'Optimising the legal framework for innovation implies achieving a fair balance between the innovation principle and other Treaty-based principles'. The Commission has emphasised that the EU Innovation Principle 'does not entail a de-regulatory approach'.[7] In this framework, therefore, public authorities decide on 'good' and 'bad' innovation.

The Commission appears to see itself as the arbiter of the usefulness of potential innovation and as a proper body to control the direction of innovation. A study it commissioned said 'not all innovation is equally relevant for sustainable growth' and that regulation, 'besides promoting innovation and its diffusion, can also provide direction to innovation, steering it towards societal needs'. It found that 'not all innovation is equally useful for public policy purposes, and the Commission needs to ascertain that innovation is used for social wellbeing' (Renda and Simonelli 2019).

In this view, rule makers need to establish the optimal level of stringency and flexibility of measures, as well as background conditions such as funding and tax, intellectual property rights protection and insolvency laws, in order to bring about the desired innovations (Porter 1991; Pelkmans and Renda 2014). It also reflects the position of economists such as Mariana Mazzucato, who argue that state intervention, even control, is

6 The EU has been working 'towards a proactive use of regulation to remedy market failures and complete innovation ecosystems' (European Commission 2016).

7 'Innovation principle makes EU laws smarter and future-oriented, experts say', European Commission, 25 November 2019 (https://ec.europa.eu/info/news/innovation-principle-makes-eu-laws-smarter-and-future-oriented-experts-say-2019-nov-25_en).

essential for innovation, and that proactive industrial policies, rather than market driven activities, have led to the great advances in technology over the past decades (Mazzucato 2013). They reject the idea that laws and regulations should only be implemented when necessary to address externalities and market failure.

On the other hand, Mazzucato's view has been criticised by Ridley (2020), 'as a creationist analysis of an evolutionary process'. Mingardi (2015) argued that she had mischaracterised the nature of the state interventions she cited as evidence. Her claims are also undermined by a focus on the US and neglect of jurisdictions such as the EU that actively and overtly pursue industrial policy[8] but have a relatively poor record on innovation (ibid.).

The range of political views on innovation and the roles of the state illustrate, however, that an innovation principle can be justified either in terms of the free-market purposes it serves or in the pursuit of industrial strategy. Set beside the precautionary principle, the key element is that it requires a more complete accounting for all the costs and benefits, whatever the substantive policy that is adopted.

8 The EU is bound by Article 173 of the Treaty on the Functioning of the EU to have an industrial policy.

The opportunity for a British Innovation Principle

As the UK has left the EU, divergence from EU regulation and regulatory practices is possible, within the parameters of what was agreed in the EU-UK Trade and Cooperation Agreement (TCA) and other international commitments, such as World Trade Organization (WTO) rules. By the TCA, the UK is committed to applying the precautionary principle in matters relating to environment and climate policy, and indeed had already legislated to do so in the 2018 EU Withdrawal Act. This will be implemented in the Environment Bill that is currently before Parliament. The precautionary principle already applies in domestic law in numerous instances concerning planning, environment and climate policy. Arguably, it pervades regulatory and legislative decision-making even when not explicit.

In light of recent high-profile developments such as the Covid vaccines, there is a great deal of interest in innovations, and how the UK, as a non-member, was seemingly able to move more quickly than the EU. There is also an awareness that economic recovery from the pandemic and lockdowns will need supply-side reforms to facilitate growth and productivity.

On the other hand, because of the appearance that the EU Innovation Principle is intended to countervail the precautionary principle, it has sometimes been criticised as an instrument of big business, designed to undermine environmental and health policy.[9] That view, however, dismisses the role of innovation and scientific and technological progress in advancing sustainability. Innovation provides the tools to conserve the environment

9 See for example 'The "innovation principle" trap', Corporate Europe Observatory, May 2018 (https://corporateeurope.org/en/environment/2018/12/innovation-principle-trap).

and improve environmental and health outcomes.[10] In this respect, an innovation principle is not a competitor with the precautionary principle, but a necessary addition to it in achieving sustainable outcomes.

In these circumstances, serious consideration should be given to how the UK might craft and implement a principle of policy-making that would allow for a more predictable, reasoned and transparent interpretation of the precautionary principle. This would be a tool to enable consideration and due weighting of the impact that a regulatory intervention may have on innovation – a British Innovation Principle.

10 As described by Mayer in 'The Case for a British Innovation Principle', IEA Blog, 4 May 2021 (https://iea.org.uk/the-case-for-a-british-innovation-principle/).

Option 1 – To bind or not to bind?

In deciding whether and how to make laws and rules, governments and regulators are generally committed to following certain procedures, sometimes called good regulatory practice (OECD 2012).

These procedures help ensure reasoned and transparent decision making and are broadly accepted as useful and necessary. The question of what principles should guide policy makers on which substantive matters are to be taken into account and their prioritisation in policy formulation are more contentious and inherently involve political judgments. It should be noted that the EU Innovation Principle is considered to have a legal basis in the EU's foundational legal order (albeit in an indirect and perhaps ill-defined way). The EU draws its Innovation Principle from treaty provisions on research in science and technology and Charter of Fundamental Rights guarantees on freedoms in science, work and property rights.

Given the EU's known deficiencies in innovation, illustrated above, it is clear that such legal commitments are not a sufficient condition to foster innovativeness and deliver innovation. In particular, when combined with the elevated status of the precautionary principle in EU law, jurisprudence and political culture, it has been relatively easy for regulators to justify precautionary action without properly weighting the associated opportunity costs.

Because the UK is giving binding legal effect to environmental principles, including the precautionary principle, and has a pervasive domestic political culture of regulation and risk aversion, there is a danger that it will adopt the worst aspects of precaution and industrial policy without the explicit and implicit protections for innovation in EU law.

A binding, general legal innovation principle (Option 1 as set out above), on a level with the environmental principles in the Environment Bill (discussed below), obliging ministers and regulators to act in ways that support innovation, seems undesirable though. Policy making is arguably already too dominated by legalistic constraints at the expense of sound political judgment and good regulatory practice. Enshrining such rights in law can also bring unintended, and adverse, consequences. For example, the rights of freedom of expression and information in the EU Charter of Fundamental Rights have been interpreted as implying a universal service obligation in electronic communications services such as broadband. It is not clear that an exercise of judicial reasoning as to the proportionality of a measure that adversely impacts innovation is preferable to politicians and officials carrying out impact assessments.

Such a principle could, though, be made binding in more focused ways, such as by including statutory duties to promote and facilitate innovation on individual regulators. A small number of regulators already have a duty to promote innovation and there have been calls for this to be extended more widely (see, for example, Taskforce on Innovation, Growth and Regulatory Reform 2021; Confederation of British Industry 2020). Care should be taken here that such duties will not entail interventionist strategies to promote particular, favoured innovations, by way of sandboxes,[11] subsidies and competitions, rather than in depth consideration of how rules, guidance and enforcement activities affect innovation.

11 Regulatory sandboxes are, broadly, controlled projects where firms can test new products under regulatory supervision.

Options 2 and 3 – Reforming the regulatory framework

Improvements to the framework of regulatory practice, and the capability of those carrying it out, could remediate the regulatory barriers to innovation without necessarily legislating a binding legal principle.

In Britain, areas of regulation where the precautionary principle applies formally have National Policy Statements. Rule-makers and officials are required to have due regard to those policy statements. The Environment Bill that is currently before Parliament includes provision for such a policy statement on the environmental principles to be taken into account by ministers across all departments when making policy that may have effects on the environment. A British Innovation Principle could usefully be applied in considering a proportional application of this and other principles.

The draft policy statement published for consultation by the Department for Environment, Food and Rural Affairs (Defra) provides a useful example of how this could work (Defra 2021). It is to apply at policy formation level, rather than individual planning, regulatory or licensing decisions.

The draft policy statement states that the precautionary principle applies:

> where there is plausible evidence of a risk that a particular policy could cause serious or irreversible damage to the environment, alongside a lack of scientific certainty about the likelihood and severity of this damage. The precautionary principle supports policy-makers in their management of that risk.

This echoes the Rio Declaration definition cited above (though, arguably, helpfully qualified by the requirement for plausibility). It is said to require:

1. identification of the risk of serious or irreversible environmental harm; and 2. management of that risk.

The draft policy statement includes a section on innovation which suggests both encouragement of desired innovations and some general protections for innovativeness:

> The precautionary principle should incentivise innovation by encouraging development of alternative policy options that reduce risk and uncertainty. New or innovative technologies should not be held to a higher standard of safety than existing ones where the level of risk is comparable, otherwise their potential to deliver benefits will be lost. The principle should not unnecessarily hinder innovation due to novelty, without plausible evidence of a risk of serious or irreversible harm, and it should only prevent or defer an innovative development where that risk outweighs the benefits.

This is a worthwhile attempt to parameterise the precautionary principle and ensure that all costs and benefits, including opportunity costs, are properly considered. This is particularly important as the UK is following the EU's (undesirable) approach of legislating the precautionary principle into law, but does not have the balancing legal principles that the EU has (even if in practice it has not fostered and safeguarded innovation very well).

In places though, the draft policy statement seems to introduce bias in favour of intervention, perhaps going further than the basic proposition that absence of clear scientific evidence should not preclude precautionary measures by requiring 'management' of any plausible risks. References to the importance of innovation are welcome but tend towards the interventionist proposition that regulation should incentivise and encourage particular innovations, rather than recognition of the value of innovation that is not controlled or centrally planned, and that innovation in free societies, through competition and trade, has delivered prosperity and superior health and environmental outcomes.

Existing national policy statements (currently in effect in areas such as planning, transport and energy) could be updated to reflect the treatment of innovation in the Defra draft policy statement. Alongside this, a more specific framework could be added to the Better Regulation Framework to formalise analysis of effects on innovation throughout the policy development and regulation process, not confined to environmental matters

or fields where the precautionary principle is formally applied. For example, Aghion et al. (2021) have presented clear evidence of labour market regulation inhibiting innovation by small firms. Zilgalvis (2014) argued the importance of an innovation principle in financial services as a counterweight to other policies pursuing other legitimate aims.

The UK Better Regulation Framework template Impact Assessment (IA) already includes innovation as a factor for the assessment of a proposed intervention.[12] The Green Book is guidance issued by HM Treasury on how to carry out such impact assessments (HM Treasury 2020). While not addressing innovation specifically, it requires that potential 'wider systemic effects across society, the economy and the environment' should be considered, whether or not they are intentional. Any significant collateral effects, including cultural and technological shifts, should be taken into account at an early stage of the appraisal process. The Competition and Markets Authority (CMA) Competition Impact Assessment checklist refers to the benefits of innovation from competition but does not itself provide a framework for evaluating the effects of interventions on innovation (CMA 2015).

However, the effectiveness of implementing a British Innovation Principle through IAs alone may be questioned, even if officials who produce the IAs are given improved training and resource to enable them to recognise when dynamic costs are in play and obtain expert advice on their quantification. In particular, IAs are frequently applied at the stage of primary legislation which itself merely enables the creation of regulation. At this stage, there is no worthwhile impact to assess; but often no IA needs to be conducted when the regulation is created (Boleat 2021). When IAs are carried out, innovation effects should be captured in cost-benefit analysis in accordance with the Green Book as things stand, but in many cases this is not done with great rigour. Arguably it's already too late for an anti-innovation policy to be rescued at this stage, and an extra box to tick will not help – often IAs are treated as a formality on the way to implementation of the policy that has been decided (Boleat 2010). This is understandable, as a full treatment of dynamic effects could require a level of analysis that may be disproportionate to the materiality of the measure concerned in many cases.

12 Guidance notes suggest that the question 'How will the intervention affect wider incentives and behaviours, such as enabling or restricting innovation?' should be addressed in the evidence base provided to support the impact assessment.

Further, IAs tend to address innovation in qualitative terms rather than as a monetised cost or benefit, and in a relatively unsophisticated way that is often based on unsupported assertions. For example, the IA accompanying the Online Safety Bill in May 2021 claimed that the measure (introducing binding duties on user-to-user platforms and search engines, backed by extraordinary powers for Ofcom to sanction breaches) would have 'negligible' direct impacts on innovation. A better approach would be to incorporate principles emphasising the impact of regulations on innovation at a strategic level, similarly to the way environmental principles are integrated into policymaking by the policy statement discussed above. The ministers responsible could include an innovation principle or checklist in their strategic frameworks, which would bring to the foreground consideration of impact on innovation in all interventions covered by their policies.

Once it is recognised – as it should be, and implicitly has been both by the EU and the British government - that the precautionary principle creates a danger of limiting innovation, policy that has already been framed in the light of it should be reviewed to acknowledge the importance of the innovation principle. In any event, post implementation review of regulation, especially interventions introduced pursuant to the precautionary principle, is a key part of good regulatory practice.

Conclusion

The UK is implementing the precautionary principle into national law. It already applies in numerous instances concerning environment and climate policy and informally pervades regulatory and legislative decision-making even when not explicit.

If over-application of the precautionary principle has led to a decline in competitiveness and innovativeness, thus necessitating a balancing innovation principle in the EU regulatory toolkit, it is surely illogical to insist that this does not imply a need for de-regulation – or at least a review of existing regulation in light of the new principle.

In areas where application of the precautionary principle is a binding commitment (such as climate, planning and energy policy) an innovation principle could be added to the applicable policy statements. This would ensure that innovation is properly considered in strategic decision making and in impact assessments, so that the precautionary principle is properly applied in the context of all available information.

In other fields where there are no such binding commitments, innovation should still be considered with more prominence than is currently the case, both at a strategic level and in impact assessments.

The objective should be to avoid unnecessarily restricting innovation, rather than to encourage or pursue favoured sectors, technologies or policies, whether as part of an industrial strategy or on an ad hoc basis. However, as a matter of democratic principle, if a government did wish to pursue an interventionist industrial strategy, the use of an innovation principle would not preclude this.

Proper analysis of effects on innovation would ensure a more rounded picture of the costs and benefits of a policy or measure. Formally including this in policy guidance could make decisions that rely on sound science to refrain from banning or restricting products or activities less susceptible to challenge by activists. This is not to argue that environmental concerns should be de-prioritised, or that legal actions to ensure the lawfulness of decisions made should be discouraged, rather that decision makers should be able to reflect all relevant costs and benefits in making a decision. When the only principle they can draw on is the precautionary principle, this biases the process. Interest groups are also capable of manipulating the presentation of risks to mobilise public and parliamentary sentiment in their preferred direction, so a proper account of all risks and benefits would aid the democratic process.

Recommendations

- An innovation principle as a general, legally binding duty on ministers in formulating policy and legislation seems undesirable and unlikely to be effective. It may also be counterproductive, driving more interest-driven litigation and expanding judicial power over political accountability.
- A British Innovation Principle could be applied as a statutory duty on regulators to promote innovation without unbalancing the constitutional relationship between parliament, government and the courts.
- National policy statements defining the British Innovation Principle should be created as a tool for interpreting the precautionary principle proportionately in context. This would provide guidance on applying the precautionary principle in a proportionate and sustainable way and cover other aspects of good regulatory practice that support innovation in the economy.
- A more focused treatment of innovation effects in the UK Better Regulation Framework could improve the quality of cost-benefit analysis in IAs. This will also require investment in training and specialist resource for officials carrying out cost-benefit analysis.
- The Better Regulation Framework should be updated to embody a British Innovation Principle.
- To have a meaningful effect on innovation and innovativeness, a British Innovation Principle should be deployed early and at a strategic level. This will require better policy direction within departments, including in fields such as employment law.
- Existing policy should be reviewed in the light of the British Innovation Principle.

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